

PCT

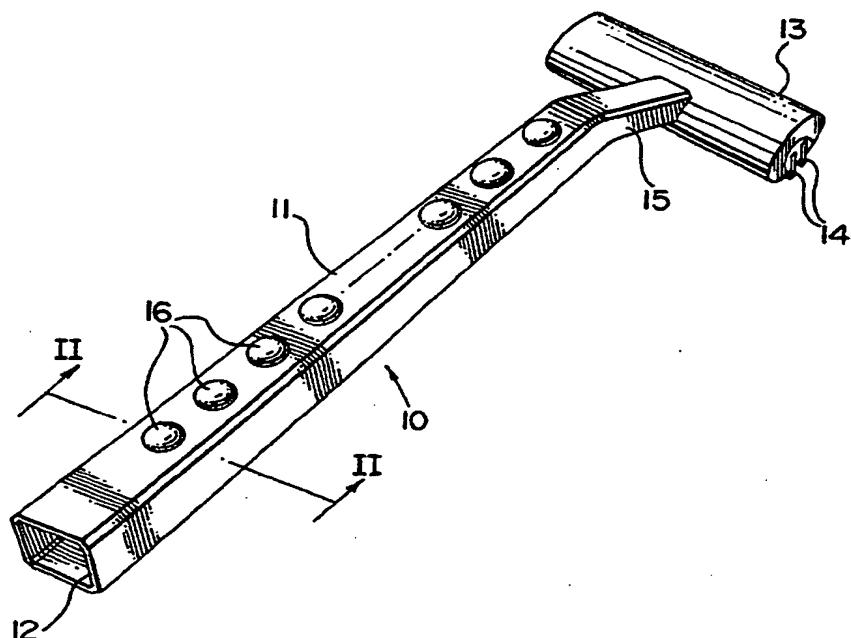
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(54) Title: **USAGE INDICATOR FOR SAFETY RAZOR**



(57) Abstract

A disposable safety razor (10) having usage indicators (16) formed integrally in the handle (11). The usage indicators are in the form of pressure sensitive marker elements in linear array on the handle which respond to digital pressure, the preferred embodiment comprising a series of spaced, upstanding, deformable plastic bubbles.

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USAGE INDICATOR FOR SAFETY RAZOR**BACKGROUND OF THE INVENTION****FIELD OF THE INVENTION**

This invention relates to indicator means whereby a record of usage of a disposable safety razor is maintained on the razor handle.

DISCUSSION OF THE PRIOR ART

Disposable safety razors, in which one or more blades are moulded integrally into the blade holder of a unitary razor design of plastic construction, have largely displaced the earlier metal razor in which single or double-edged blades were replaceable upon having lost their keen edge consequent to usage. Conventionally, safety razor blades can be used for between 7 and 10 or 12 successive shaves, depending on conditions of usage, whereupon the razor is discarded, the cost of the handle and blade holder being nominal in comparison to the cost of the blade.

It is desirable that the user, before the next successive shave, should be aware of the number of shaves already logged against such a disposable razor; shaving with an over-used or dull blade can be an uncomfortable experience; and even following the first few painful strokes with a dull blade, the user will frequently finish the shave rather than discard the dull unit in mid-shave, to seek a fresh razor.

The prior art literature is replete with blade usage indicators, none of which has been commercially successful. U.S. Patent No. 4,208,984 discloses a slideable use indicator operating in a longitudinal slot in the handle, with a pointer on the slide registering with indicia in the handle; U.S. Patent No. 4,268,958 describes a use indicator in which a number of frangible plastic tabs extend outwardly from the handle, intended to be broken off following use,

thereby to indicate successive usage. Rotatable counters have been proposed, as in U.S. Patent Nos. 5,119,557 and 3,229,659, which are rotatable relative to the handle. Each of these designs have failed to meet the requirements of no increase of manufacturing, and no significant complexity 5 of use to the user.

SUMMARY OF THE INVENTION

In accordance with the present invention, a disposable safety razor with usage indicator means formed integrally in the handle comprising pressure-sensitive marker elements, is provided which avoids prior art deficiencies. The 10 usage indicator means of the present invention may be readily incorporated into current razor designs without significant manufacturing retooling.

In accordance with the presently most preferred embodiment, the usage indicating means comprises a plurality of deformable bubble indicators embodied in linear array on the handle. With sequential usage of the blade, 15 the user exerts pressure with the thumb or finger, thereby deforming the bubble into visibly identifiable register condition, thereby to record a single use of the blade. When the entire sequence of indicators is thus deformed, the user is aware that the blade is no longer functional and that the razor should be discarded.

20 The method and device of the present invention thus provides the user with ready visual means of recording usage, without further reference to any record other than the razor itself. Thus, the number of shaves remaining is readily ascertainable before each use, and prior to any otherwise uncomfortable shaves resulting from use of an overused, dull blade.

25 These and other factors of the present invention will become further clear from the following detailed description of the preferred embodiment, taken with the attached drawings, wherein:

Figure 1 is a perspective view of the device of the preferred embodiment, with the usage indicators in linear array on the handle.

30 Figure 2 is a cross-section taken at 2.2 of Figure 1, indicating the relative thickness of the plastic in the handle parts.

Figure 3 illustrates the razor of Figure 1 after partial use.

DETAILED DESCRIPTION OF THE INVENTION

Figure 1 depicts one embodiment of the present invention, in which a disposable razor 10 formed of moulded plastic includes a hollow moulded plastic handle 11, normally open at the bottom end 12, of longitudinally extending configuration and generally rectangular in cross-section as depicted in Figure 2. A blade holder 13 adapts to hold a blade 14, and is integrally formed with the handle 11 at its upper end 15.

Hemispherical bubbles 16 are integrally moulded into the handle 11 and protruding outwardly therefrom, as depicted; having a skin thickness such that they are readily distendable into the hollow interior of the handle, while retaining their configuration under normal conditions of use. It will be apparent that, alternatively, the plastic bubbles may be so designed as to be breakable under finger pressure, thereby also leaving a readily visible marker on the handle. The bubbles 16 are formed in extended linear serial array on one side of the handle 11 as depicted, thereby to form a readily accessible indexing means for registering usage of the razor.

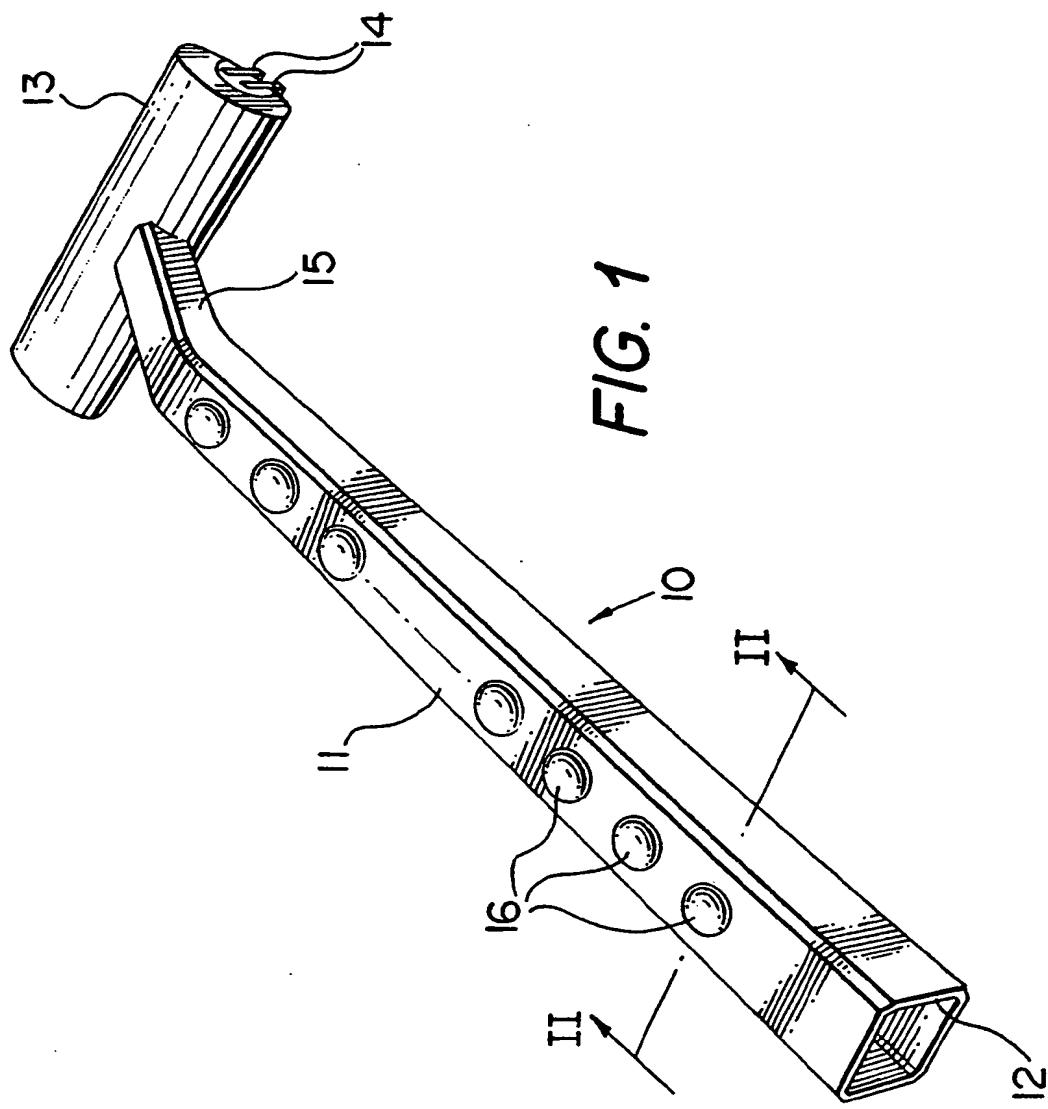
In practice, it has been found that for normal conditions of use, a blade will perform satisfactorily between 7 and 10 shaves; accordingly, a similar number of bubbles 16 will be formed on the handle 11.

To record and maintain a record of the number of times the razor is used, the user, while holding the razor in the subordinate hand, will depress the first or next of the bubbles in the linear series, with the thumb of the dominant hand. The number of raised or non-depressed bubbles remaining on the handle records the number of shaves remaining for the razor under normal conditions, prior to discarding.

Other embodiments of the invention will readily occur to those familiar with the art to which this invention relates. Bubbles of various configurations, or containing colored liquid, which may be broken under digital pressure will readily occur. Pressure-sensitive color-changing pads, secured in similar linear array may be substituted for the raised bubbles on the handle. Accordingly, because of the many possible variations of the invention, the scope of the invention should not be considered as limited to the specific embodiment depicted; the invention is limited, therefore, only insofar as is required by the scope of the following claims.

CLAIMS:

1. A disposable razor including a molded plastic handle, a blade holder and a blade, and means for indicating usage of the razor comprising a series of deformable marker elements formed on said handle, said series of 5 deformable marker elements comprising a plurality of raised plastic bubbles in linear spaced array, adapted to deform under finger pressure.
2. The disposable razor according to Claim 1, wherein said raised plastic bubbles comprise domed hemispherically convex shapes having relatively thin walls formed integrally in the handle.



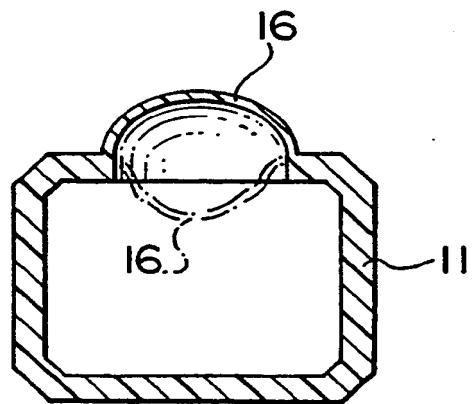


FIG. 2

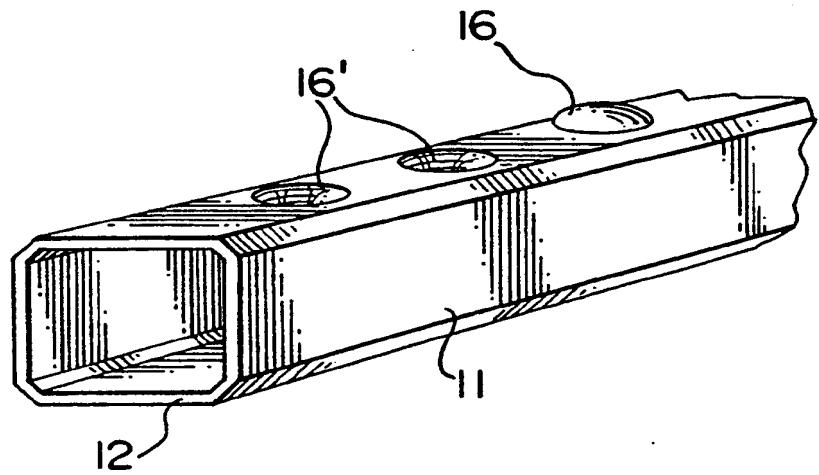


FIG. 3

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US95/02056

A. CLASSIFICATION OF SUBJECT MATTER

IPC(6) :B26B 19/38

US CL :30/41.7; 116/200, 201, 307

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 30/41.7; 116/200, 201, 205, 279, 307, 327, 328, Dig. 8, Dig. 28

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
NONE

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

NONE

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US, A, 3,392,468 (WOLF) 16 July 1968, see col. 2, lines 34-57.	1-2
A	US, A, 3,974,916 (BARTOLUCCI) 17 August 1976, see col. 2, lines 18-55.	1-2
A	US, A, 4,268,958 (HILBERT) 26 May 1981, see col. 3, lines 21-52.	1-2
A	US, A, 5,062,209 (RAIS) 05 November 1991, see col. 1, line 65 - col. 2, line 5.	1-2

Further documents are listed in the continuation of Box C. See patent family annex.

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Date of the actual completion of the international search	Date of mailing of the international search report
24 MARCH 1995	06 APR 1995
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